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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/712,924

11/13/2003

Douwe Johannes Runia

TS 6413 USA.

9876

23632 7590 02/22/2007
SHELL OIL COMPANY
P O BOX 2463
HOUSTON, TX 772522463

EXAMINER

STEPHENSON, DANIEL P

ART UNIT

PAPER NUMBER

3672

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/22/2007

PAPER

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If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 4 recites the limitation "the closure element" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 15, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrell et al. '023 in view of Estes. Harrell et al. '023 (Figure 5) discloses a bottom hole assembly attachable to a tubular drill string. The bottom hole assembly has a drill bit (54), a drill steering system (60), and a surveying system (62). The bottom hole assembly is provided with a longitudinal internal passage for at least part of an auxiliary tool, such as the production tubing. The drill steering system is provided in the form of a mud motor comprising a tubular stator and a rotor arranged in the tubular stator. There is a bit shaft, which is arranged to be driven by the rotor and suitable for transmittal of torque to a drill bit. The rotor is releasably connected to the bit shaft. After it is removed from the hole, after disconnection from the bit shaft, the rotor is capable of being longitudinally removed from the stator. Harrell et al. does not explicitly state

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that part of the auxiliary tool is at least 5 cm in diameter. Estes (col. 3 lines 30-33) discloses the use of a bit with a tool port and passage to allow a tool with a diameter of at least 5 cm. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the diameter of Estes on the bit of Harrell et al. '023. This would be done because it is common knowledge within the art that the size of the passage would be relative to the size of the bit and the size of the hole as a matter of design.

5. Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the WIPO document '488 to Runia (hereafter WIPO '488) in view of Schuh. WIPO '488 (Fig. 1-3, pages 4-11) discloses a tubular drill string, which includes at its lower end a bottom hole assembly with a drill bit. The drill string includes a passageway for an auxiliary tool (40) from a first position interior of the drill string above the bottom hole assembly to a second position wherein at least part of the auxiliary tool is exterior of the drill string below the bottom hole assembly. The passageway can be selectively closed. It is used to drill so as to progress the drill string into the earth formation, until a tool operating condition is met. Then opening the passageway and passing the auxiliary tool from the first position through the passageway to the second position where it is operated. The passageway is then closed and drilling is continued. Closing the passageway entails retrieving the auxiliary tool fully into the drill string. The auxiliary tool can be a logging tool. Multiple auxiliary tools can be deployed through the drill string and operated external of the drill string. The auxiliary tool may be pumped down (page 11 lines 14-16) the drill string. The bottom hole assembly comprises a removable closure element (18) adapted to selectively close the passageway. The closure element is broadly read as a surface retrievable pad, since it is retrievable at the surface after the drill is tripped up. WIPO

'488 does not disclose that there is a rotary drill steering system, and a surveying system located in the bottom hole assembly. Schuh (Fig. 1, 3, 6A-6D) discloses a steering system for use with a rotary drill string. It operates in conjunction with a survey system/MWD. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the steering/survey system of Schuh with the apparatus of WIPO '488. This would be done since it is common knowledge within the drilling art to add steering mechanisms to a non-steering rotary bit if directional drilling is desired and the apparatus of Schuh allows for directional drilling with a high degree of control as taught (col. 2 lines 27-41).

6. Claims 7-9, 11, 14, 15, 19 and 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over WIPO '488 in view of Schuh and further in view of Estes. WIPO '488 in view of Schuh shows all the limitations of the claimed invention, except it does not disclose that part of the auxiliary tool is at least 5 cm in diameter. Estes (col. 3 lines 30-33) discloses the use of a bit with a tool port and passage to allow a tool with a diameter of at least 5 cm. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the diameter of Estes on the bit of WIPO '488 in view of Schuh. This would be done because it is common knowledge within the art that the size of the passage would be relative to the size of the bit and the size of the hole as a matter of design.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over WIPO '488 in view of Schuh and Estes as applied to claim 8 above, and further in view of Comeau et al. '063. WIPO '488 in view of Schuh and Estes shows all the limitations of the claimed invention, except it does not disclose that the survey system is a tubular sub that forms part of the passageway for the auxiliary tool. Comeau et al. '063 discloses to us of a tubular sub MWD system (378). This

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system has a longitudinal passage for the passage of various tools. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the MWD of Comeau et al. '063 with the apparatus of WIPO '488 in view of Schuh and Estes. This would be done because it is common knowledge within the wellbore art to have tubular MWD's for the allowance of fluid to pass by them.

Allowable Subject Matter

8. Claims 4, 10 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed 11/13/06 have been fully considered but they are not persuasive.

10. It is the assertion of the applicant that it would have been hindsight to make the combination of Harrel et al. with Estes, due to the fact that Harrel does not place a logging or sampling tool downhole, or below the bit. The examiner respectfully traverses this assertion. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In addition, it is noted that the Estes reference is used merely to teach that an internal diameter of 5cm for the passage of items through a drill string down to the drill bit is not beyond on of ordinary skill in that art of drilling. In combining it with the Harrel et al. reference it is not used to show that a tool is passed through the bit, as this is not required in the claims.

Also, it is the assertion of the applicant that Harrel et al. teaches away from the invention of Estes. The examiner respectfully traverses this assertion. It is put forth that the drill pipe above the bit of Harrel et al. is smaller than a normal bore diameter because it needs to house sensor equipment. There is no statement within the specification referring to this and is merely supposition on the part of the applicant.

11. It is the assertion of the applicant that the statement that it is common knowledge within the art that the size of the passage would be relative to the size of the bit is not correct. The examiner respectfully traverses this assertion. Evidence for this can be found in the pre-grant publication '471 to Zupanick at the end of paragraph 13.

12. It is the assertion of the applicant that there is no motivation to combine the Runia and Schuh references. The examiner respectfully traverses this assertion. As stated previously, it is common knowledge within the art of drilling to utilize a steering system on a non-steering rotary bit if directional drilling is desired. This provides the motivation that is needed. The applicant argues that since Schuh does not disclose anything about have a tool that goes from the interior to the exterior it would only be through hindsight that the combination is acquired. The examiner traverses this assertion. It is the opinion of the examiner that since it is common knowledge to add steering to a non-steering bit and Schuh discloses an apparatus to do so, it would be common knowledge to use the apparatus of Schuh on the string of Runia.

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13. It is the assertion of the applicant that since Comeau only discloses fluid passing through the tubular sub, it would preclude it from being a passageway for an auxiliary tool. The examiner respectfully traverses this assertion. Commonly, an internal bore of a drill string or pipe is kept uniform along its length to prevent pressure increases and holdups within the pipe/string. Thus if a tubular sub, such as the one in Comeau, were used in conjunction with the apparatus of Runia in view of Schuh and Estes, it would have the diameter necessary for the passage of the auxiliary tools.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel P. Stephenson whose telephone number is (571) 272-7035. The examiner can normally be reached on 8:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

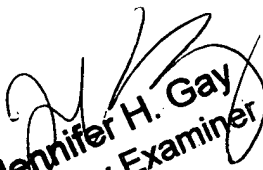
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David Bagnell
Supervisory Patent Examiner
Art Unit 3672

DPS 


Jennifer H. Gay
Primary Examiner